

Name: _____ Date: _____

Basic Bonds: Building Big Blocks for College Chemistry

Assess foundational knowledge of atomic interactions with 10 questions covering valence shells, electronegativity basics, and primary bonding classifications.

1. Which of the following elements is most likely to form an ionic bond by losing an electron to achieve a stable octet?

- A. Potassium (K)
- B. Fluorine (F)
- C. Neon (Ne)
- D. Carbon (C)

2. A covalent bond involves the complete transfer of one or more electrons from one atom to another.

- A. True
- B. False

3. In a ____ bond, electrons are not associated with any single atom but move freely throughout a three-dimensional lattice.

- A. Polar Covalent
- B. Hydrogen
- C. Metallic
- D. Double

4. Which molecule contains a triple covalent bond to satisfy the octet rule for both atoms?

- A. O₂
- B. N₂
- C. F₂
- D. Cl₂

5. Electronegativity is a measure of an atom's ability to attract shared electrons in a chemical bond.

- A. True
- B. False

6. Which of these substances is held together by electrostatic attractions between oppositely charged ions?

- A. Aluminum (Al)
- B. Diamond (C)
- C. Lithium Bromide (LiBr)
- D. Ammonia (NH₃)

7. When two atoms with identical electronegativities share electrons, the bond is classified as ____.

Name: _____ Date: _____

- A. Ionic
- B. Non-polar covalent
- C. Polar covalent
- D. Coordinate

8. Which property is typically high in compounds with strong ionic bonds?

- A. Vapor pressure
- B. Malleability
- C. Melting point
- D. Gaseous state at STP

9. The valence electrons are the innermost electrons of an atom and do not participate in bonding.

- A. True
- B. False

10. The ____ rule suggests that atoms lose, gain, or share electrons to acquire a full set of eight valence electrons.

- A. Hund's
- B. Octet
- C. Pauli
- D. Aufbau